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Youth Criminal Participation and Household Economic Status*

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Youth Criminal Participation and Household Economic Status*

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Abstract

This paper uses data from the NLSY97 to estimate the degree to which youth criminal participation is related to household economic status. The first part of the paper indicates that there exists a strong negative relationship between household economic status and youth participation in serious crimes, with youth from households in the poorest third of the wealth distribution being over 65 percent more likely to have participated in a serious crime over the observation period than youth coming from households in the richest third of the wealth distribution. However, I show that the strength of this estimated relationship will be significantly understated if crimes are not limited to being serious in nature and/or household income as opposed to household wealth is used to measure household economic status. The latter part of the paper then shows that most of the observed relationship between household wealth and youth participation in serious criminal activity can be accounted for by various measures of youth expectations of future opportunities, neighborhood criminal exposure, and investments in children by parents.

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1 Introduction

Understanding youth criminal activity is an issue of considerable importance for several reasons. First and foremost, criminal careers most often begin during juvenile years, with most chronic adult offenders having had multiple contacts with the juvenile justice system [Greenwood, 1995]. Furthermore, as Grogger [1995] and others have shown, youth criminal activity can have long lasting financial consequences through limiting future labor market opportunities. Evidence also suggests that youth criminal activity appears to be a growing problem, especially relative to adult criminal activity. For example, from 1985 to 1995 juvenile arrests in Florida for murder rose by 122 percent, for robbery by 97 percent, for aggravated assaults 109 percent, and motor vehicle theft by 85 percent [Florida Department of Law Enforcement, 1996]. Moreover, in the United States as a whole, the rate at which adults were arrested for murder fell by roughly 7 percent between 1978 and 1993, yet the rate at which juveniles were arrested for murder rose 177 percent over the same time period [Levitt, 1997].

Two key steps for understanding what policies may be effective at decreasing the prevalence of youth criminal activity are to determine which group of youth are most likely to engage in criminal behavior, and to understand what factors related to the make-up of this group account for this increased criminal susceptibility. One commonly held perception is that youth crime is a problem most closely tied to growing up in poverty. Despite this perception, very little empirical work has documented any strong relationship between youth criminal behavior and socio-economic status. In their analysis of 35 studies and 363 separate estimates of the class/crime relation, Tittle et al. [1978] conclude that the assumed negative correlation between social class and criminality is a 'myth'. Similarly, Thornberry and Farnworth [1982] find that, for the juvenile

period, none of their measures of socio-economic status are strongly related to delinquent involvement for either black or white subjects.

However, this apparent lack of an empirical relationship between a youth's criminal behavior and socio-economic status may not be due to the lack of such a relationship, but rather due to an overrepresentation of trivial offenses in self-reported criminal participation data, along with varying notions and imprecise measures of socio-economic status. The first of these points was suggested by Elliot and Ageton [1980], who examined data from the 1977 National Youth Survey, and show that "lower" class youth appear to engage in significantly more *serious* criminal activity than "middle" class youth, but not necessarily more of *all* crimes.

Using data from the National Longitudinal Survey of Youth 1997 (NLSY97), the first part of this study looks at these issues in more detail, focusing specifically on the relationship between youth criminal participation and household economic status. I find that when participation in any crime is used to measure criminal participation, and a snapshot of household income from a particular year is used to measure household economic status, the estimated relationship between household economic status and youth criminal activity is not very strong. Youth from households in the poorest third of the income distribution are only about 21 percent more likely to participate in crime than youth from households in the richest third of the household income distribution. However, once the definition of criminal participation is limited to commission of serious offenses only, and household wealth rather than household income is used to measure household economic status, the relationship becomes much stronger. Youth from households in the poorest third of the wealth distribution are estimated to be almost 70 percent more likely to participate in serious crime than youth from households in the richest third of the wealth distribution.

After statistically documenting this relationship between household economic status, as measured by household wealth, and youth participation in serious crime, I attempt to uncover what factors associated with household wealth can account for this relationship. I focus on variables related to three general theories. Namely, are children from poorer families more likely to participate in serious crime because they are exposed to more criminal activity in their neighborhoods, because they expect to have fewer future opportunities available to them, and/or because their parents are less able to invest sufficient time, energy, and skill in their upbringing? While the data available in the NLSY97 can only provide information on a small subset of the variables inherent in each of these theories, the variables I am able to control for provide empirical support for all three of the preceding theories. Moreover, when taken together, these variables can account for the vast majority of the previously estimated relationship between household wealth and youth participation in serious crimes. In other words, almost all of the strong relationship between household wealth and youth criminal participation can be traced to observable characteristics that differ between rich and poor youth. Therefore, policies that affect these characteristics, and/or alter the cross-wealth differences in these characteristics among youth, will likely have large impacts on youth criminal participation.

The remainder of this paper proceeds as follows. Section 2 motivates why it may be important to evaluate the relationship between household economic status and youth criminal participation. The first part of Section 3 then describes the data to be used and discusses how this data may be used to overcome some of the constraints inherent in the previous literature. The second part of Section 3 then estimates the empirical relationship between youth criminal participation and household economic status. In Section 4, I attempt to evaluate what factors related to household economic status can

help explain the youth crime-household economic status relationship. Finally, Section 5 summarizes and concludes.

2 Theoretical Relationships Between Youth Criminal Participation and Household Economic Status

The underlying conditions that cause individuals to engage in criminal activity are certainly plentiful. As a way of organizing the discussion, much of the economics literature related to crime and criminal participation has started with Becker's [1968] model of rational criminal behavior. In this model, individuals decide whether or not to engage in crime by weighing the benefits of crime against the expected costs of committing crime. In this formulation, the benefits of crime not only include the monetary rewards obtained from the criminal activity, such as money from drug sales or robberies, but also allows for benefits in the form of increased respect and psychic satisfaction resulting from the criminal acts themselves. Similarly, the expected costs of criminal behavior take into account the probability of getting caught, the disutility of the punishment if caught, the opportunity costs of the time it takes to commit the crimes and possibly spend time in jail, the effects of arrests on future wages, as well as the moral psychic costs associated with breaking the law.

Most of the empirical studies related to this model have focused either on the labor market tradeoffs associated with arrests and criminal participation, or on how individuals react to the greater costs of criminal activity associated with stricter sentencing policies [Freeman, 1991; Witte, 1980; Levitt and Kessler, 1999; Levitt, 1998; Gould et al., 2002; Grogger, 1998]. However, there are several plausible arguments suggesting there may also exist a strong tie between household economic status and criminal par-

ticipation, especially for youths. The most direct mechanism tying household economic status to youth crime is that relatively poor youth may face, or may expect to face, greater constraints on their future choice sets than youth from relatively better off families. Hence, youth from poorer households may feel their future choice set to be limited in the first place, making the potential consequences of an arrest on this future choice set minimal. For example, because of household credit constraints, lack of information, underperforming schools, or a variety of other reasons, youth from poor households may feel a college degree to be relatively unlikely regardless of their criminal behavior. Hence, they may feel an arrest will not substantially alter their expected choice set regarding college or career. In terms of the Becker model, these lesser perceived costs will then make youth coming from poorer families more prone to criminal participation.

Another reason why youth from poorer households may be more prone to engage in criminal behavior is because peer and community sanctions against those who commit crimes may not be as severe in poor communities. There is a large literature on how peers and interactions with neighbors may affect criminal behavior [Roncek, 1981; Sampson, 1994; Glaeser, Sacerdote, and Schienkman, 1996; Brock and Durlauf, 2001; Wilson, 1987, 1995]. While there are certainly many distinctions, variations, and discrepancies among these theories, in general they posit that the psychic cost to committing a crime is smaller when criminal activity, or people who are known to participate in criminal activity, are a large and visible part of the community. Similarly, Krivo and Peterson [1996] argue that community environments where individuals are exposed to criminal activity, have less access to jobs, and encounter relatively few role models of economic success, impede communities from maintaining basic institutional structures and social control. Hence, youth growing up in these poorer neighborhoods with a relatively high proportion of criminals may perceive lesser psychic costs associated with criminal participation than

youth from wealthier neighborhoods.

Looking at a randomized housing voucher experiment, Ludwig, Duncan, and Hirschfield [2001] find evidence consistent with such neighborhood effects on youth crime. They examine the effects of a randomized housing experiment on youth criminal activity. In the experiment they examine, families living in certain high poverty neighborhoods could sign up to be eligible for housing subsidy experiment. Those families who signed up to participate in the experiment either: received assistance to relocate to a low poverty neighborhood (experimental group), received a voucher they could use toward relocating with no constraints (section-8 group), or received no assistance (control group).[1] Their evidence shows that youth from both the experimental group and the section-8 group experience a significant reduction in violent-crime arrests relative to controls. However, relative to controls, the youths from families in the experimental group did have somewhat higher rates of property-crime arrest, but only for a time-period shortly after the move. In general, their evidence is consistent with peer effects with respect to crime.

Finally, a child's proclivity toward criminal activity may depend on the time, energy, and skill the child's parents are able to invest in his or her upbringing. Because poorer parents are likely to have relatively inflexible and physically demanding jobs, are far more likely to be single caregivers, and live in more stressful surroundings than richer parents, poorer parents may have less time and energy to make substantial upbringing investments in their children than their richer counterparts. Furthermore, if education and age make parents more efficient at making these investments for any given amount of time and energy invested, the fact that poor parents are often younger and less educated may further impede the ability of less economically well-off parents to effectively navigate

[1]They found that 53 percent of those families in the experimental group chose to relocate and 73 percent of those families in the section-8 group chose to relocate.

their children away from risky behavior such as crime.

All of the previous arguments are potentially important for efficient youth anti-crime initiatives, in that they describe which youth may be most effectively targeted and what factors make this group systematically more prone to crime. However, the obvious implication necessary for any or all of these arguments to be true is that youth from poorer households should be more likely to engage in criminal participation. The next section examines whether this result appears to hold true, and why several previous empirical studies have differed in their findings concerning this crucial relationship.

3 Empirically Documenting the Relationship Between Youth Criminal Participation and Household Economic Resources

In studies of the empirical relationship between different measures of socio-economic status and youth criminal participation, the most notable constraint has been obtaining accurate and representative data on criminal activity. Arrest data is problematic because it is not representative of all individuals who participate in criminal activity, rather only those who were caught and deemed arrest worthy by police. Victimization data on the other hand is often problematic because very little information, if any, can be gathered about the perpetrator. For these reasons, using survey instruments to gather self-reported criminal behavior has become a very attractive method for obtaining criminal participation data.

There do, however, remain a variety of constraints inherent in self-reported criminal activity data. One obvious constraint is that respondents may fail to report criminal participation out of shame or fear of reprisal. Such underreporting may be particularly problematic in cases where the respondent is directly questioned by an interviewer,

especially if the interviewer is of a different race, gender, or social class.

The other constraint of self-reported criminal activity data is the tendency for self-reports to be overly broad. Specifically, in order to get meaningful variation in the data, many self-report survey instruments have been skewed toward behavior occurring frequently in "nondelinquent" samples. As stated by Hindedlang et al. [1978], "trivial items in self-report scales tend to swamp more serious items when, as is common, global simple sum scales are used," causing these global scales to reflect the correlates of trivial delinquency, not the more serious criminal delinquency that is the concern of policy makers and citizens. This has been an important constraint in studying the relationship between youth criminal participation and socioeconomic status because, as stated by Clelland and Carter [1980], "...the self-report measure systematically underestimates serious criminality" suggesting that "self-report studies serve only to demonstrate that social status is not related to youthful peccadillos."

A further constraint faced by studies attempting to document the correlation between youth criminal participation and household socio-economic status is that the definition of socio-economic status that is used is often left vague, and even when specified, it may be poorly measured. For example, even if socio-economic status is defined relatively narrowly to be the economic resources available to a household, many data sources that contain information on youthful criminal behavior do not have direct information on the youth's parents' finances, or if they do, it is often reported by the youth and therefore subject to substantial measurement error.[2] Maybe more importantly, even accurate information regarding a youth's parents' wages or income in a given year may not accurately describe the overall financial resources applicable to a given household. Wages and annual income often vary substantially from year to year and also do not

[2]For example, the National Longitudinal Survey of Youth 1979.

take into account the savings, assets, and dynastic wealth of a family. Therefore, wages or annual income from any given year provide only a noisy measure of "permanent income", where it is this permanent income that provides the true measure of a youth's household's economic resources. Such measurement error will tend to understate any empirical relationships between household resources and youth criminal behavior.[3]

3.1 Using the NLSY97 to Overcome Previous Data Constraints

As an attempt to overcome the constraints described above, this paper uses data from the National Longitudinal Survey of Youth 1997 (NLSY97). The NLSY97 is particularly suited for studying the relationship between youth criminal participation and household economic resources for several reasons. First, the sampled group was large, consisting of over 8,000 respondents, resulting in substantial sample variation in responses for even relatively infrequent behavior such as criminal participation. Second, the NLSY97 sample is constructed to be representative of all American youth born between 1980 and 1984. Hence, the findings obtained using the NLSY97 data can be more convincingly extended to the youth population as a whole than findings obtained using a sample of "at risk" or otherwise selectively sampled youth.

A third benefit of the NLSY97 is that the questions regarding criminal activity were asked using a self-administered questionnaire via a laptop computer rather than through a written survey or a face to face interview. Given the personal nature of these questions,

[3]In examining intergenerational income mobility, Solon [1992] and Zimmerman [1992] argue that much of the correlation between father's and son's lifetime earnings is understated when the annual earnings from only one year are used to measure permanent income. By pooling together several years of earnings, or otherwise incorporating several years of income observations to measure permanent income, they show that the correlation in earnings across generations is up to 2 times larger than found in previous estimates that used the single year measures of permanent income.

the increased privacy and confidentiality offered by the laptop may elicit substantially more truthful responses than previously available from self-reported data sources.

Another benefit of the criminal participation questions in the NLSY97 is that they are specific enough to assess whether any reported illegal behavior consisted of serious criminal acts that would likely lead to arrest if caught, or consisted of youthful indiscretions like petty theft and property destruction. As described in the previous section, failing to distinguish between these different crime severities can have important consequences. In the analysis to follow, a respondent is classified as committing a "serious crime" if he or she admitted to breaking and entering a locked building to steal, stealing with a weapon or use of force, stealing a car, assault, selling narcotics, or earning over $500 from drug sales, between the 1997 and 1998 interviews (the "observation year").[4] As can be seen in Table I(a), about 28 percent of the sample admitted to committing a crime during the observation year, with 15 percent admitting to committing a "serious crime" (as defined above) during this time period.[5] Looking at different subgroups, 34

[4]Technically, this 'observation year' will be more than one year, as respondents in the sample used in this analysis were interviewed an average of 19.9 months after completing the first round interview. The length of this "observation year" does not appear to differ substantially across the wealth distribution, with the mean length for the youth from the poorest third of the household wealth distribution averaging 20.1 months between the first and second round interviews (with a standard error of 0.06), youth from the middle third of the household wealth distribution averaging 19.8 months between interviews (with a standard error of 0.06), and youth from the richest third of the household wealth distribution also averaging 19.8 months between interviews (with a standard error of 0.05). Therefore, while observation year for youth from the poorest third of the household wealth distribution does cover activity over a longer period of time, the difference works out to only about 3/10 of a month or 9 days.

[5]The sample used to calculate these percentages consisted of all individuals interviewed in 1998 with valid data for household net worth. Almost identical proportions are obtained if sample is restricted to only those with valid data for household income from 1997. A few individuals refused to answer a crime question or answered "don't know". However, since all of these respondents who refused to answer or

percent of males admitted to committing a crime in this sample period, with 18 percent admitting to participating in a serious crime, while only 23 percent of females admitted to any crimes in this sample period and only 12 percent admitted to a serious crime. For white males, the analogous proportions were 34 and 18 percent for each crime category, while for black males the proportions are 31 and 21 percent for "all crimes" and "serious crimes" respectively.

The NLSY97 also provides better data for measuring household economic status than has been available previously. While the criminal participation data in the NLSY97 was collected directly from the youth respondent, information regarding the youth's household economic resources was collected directly from one of the youth's guardians. Moreover, prior to the first round interview, information was collected regarding not only household income in the year prior to the interview, but also household wealth at the time of the interview.[6] Because wealth is a stock variable, it is less prone to annual variation that is inherent to annual income measures, making it an arguably less noisy measure of a household's permanent income or the household's overall economic resources just prior to the observation year.

Roughly 73 percent of the all subjects in the NLSY97 had valid information regarding household income for the year prior to the initial first round interview and 74 percent of all subjects had non-missing information regarding household wealth at the time of the first round interview. The NLSY97 data on household income and wealth appear

answered "don't know" to a particular crime question answered in the affirmative to a different crime questions, it does not matter whether these ambiguous responses are treated as affirmatives or negatives since I am only looking at participation. All statistics in this paper were calculated using sampling weights provided by the NLSY97.

[6]In 81 cases, no household wealth information was obtained from guardian, so information gathered from youth was used instead.

to be reasonable with respect to other studies. As can be seen in Table 1(a), the median household annual income in the sample used here was $43,250, which is generally comparable to the 1997 CPS median household income of $46,359 for households with the reporting householder between the ages of 35 and 44 [U.S. Department of Census, 1998].[7] Similarly, the median household net worth in this sample was $51,401,[8] which lies roughly halfway between the estimated 1998 median net worth for households with the reporting householder between the ages of 35 and 44 of $35,447 calculated using Survey of Income Program and Participation (SIPP) data and $62,427 that was calculated using Survey of Consumer Finances data [Orzechowski and Sepielli, 2003].[9] As should be expected, Table 1(a) shows that white youth come from households with higher mean income and much higher mean wealth than black youth.

Sixty-seven percent of the respondents had valid information for both measures of household economic resources. One concern is that the youth who did not have valid data for either household wealth or household income were not a randomly determined subset. However, as shown in Table A1 in the Appendix, those without valid data regarding household wealth and/or income information appear to be very similar to those with valid household wealth and income information with respect to several characteristics important to this study.

Not surprisingly, for those with valid information concerning household wealth and

[7]This age group is roughly the relevant group for comparison, since the youth in the NLSY97 are between the ages of 12 and 16 at the time of the 1997 interview. Therefore, while similar, the households in the NLSY97 are presumably somewhat younger on average than this CPS group, which may explain why the median wage for this CPS group is somewhat higher than that for the NLSY97 group.

[8]Both this household wealth median and the household income median reported above take into account the weights for each individual as given by the NLSY97.

[9]Both of these estimates were deflated to 1997 dollars using the CPI.

household income, wealth and income are highly correlated. Table I(b) shows the joint distribution of household annual income and household wealth both divided into distributional thirds. The joint distribution is strongly centered along the main diagonal, with 62 percent of households being in the same third of the household income and household wealth distributions, and only 4 percent of households being in opposite thirds of the income and wealth distributions. In households who are in a higher wealth third than income third, the resident fathers have a mean education level of 10 years (with a standard error of 0.20). Alternatively, the resident father in households who are in a higher income third than wealth third have a mean education level of just 7.5 years (with a standard error of 0.18). Therefore, higher educational attainment of the resident father appears to correspond more closely to the household's location in the wealth distribution than the income distribution. Given education is likely to be a factor determining permanent income, this finding is consistent with household wealth being a more accurate measure of permanent income than household annual income.

3.2 Estimating the Relationship between Youth Criminal Participation and Household Economic Status

Figures I(a)-(d) show the relationship between household economic status and youth criminal activity, and how the estimated strength of this relationship changes using different measures of criminal participation and household economic status. The first group of bars in Figure I(a) shows the relationship between a youth participation in any crime in the observation year and household economic status as measured by where the household lies in the household income distribution just prior to the observation year. While participation in crime appears to be monotonically decreasing as household income rises, youth from the poorest third of households are only 21 percent (5.5 per-

centage points) more likely to have participated in a crime during the observation year than youth from the richest third of households. By contrast, if we look at the second set of bars, where criminal activity is restricted to only serious crimes (as defined above), youth from the poorest third of households are 58 percent (7 percentage points) more likely to have participated in a serious crime during the observation year than youth from the richest third of households.

Furthermore, if we control for household economic status using where a household lies in the wealth distribution rather than income distribution, the relationship becomes even stronger. The third set of bars in Figure I(a) show that restricting criminal participation to only serious crimes and using location in the household *wealth* distribution to measure household economic status, youth from the poorest third of households are 66 percent (7.5 percentage points) more likely to have participated in a serious crime during the observation year than youth from the richest third of households.[10]

The results from Figure I(a) show that, overall, there appears to exist a strong negative relationship between youth participation in criminal activity and household economic status, with the estimated magnitude of this relationship being dampened if crimes are not restricted to being serious in nature and if a more variable measure of household economic status is used. This relationship is particularly strong for white male youths. The first set of bars in Figure 1(b) show that white male youths from the poorest third of households, as measured by location in the household income distribution, are only 16 percent (5 percentage points) more likely to participate in any crime in the observation year than white male youth from the richest third of households.

[10]Standard errors for these estimates shown in Table A2 in the Appendix. In all cases, differences across household economic status categories are statistically significant at the one percent level. Data are weighted using Round 2 sampling weights provided by the NLSY97.

However, the third set of bars in Figure I(b) reveal that youth from the poorest third of households, as measured by location in the household wealth distribution, are actually 75 percent (10.2 percentage points) more likely to participate in serious crimes than their counterparts in the richest third.[11]

For black male youth on the other hand, the relationship between household economic resources and criminal participation does not appear to necessarily work in the same way. The first set of bars in Figure I(c) suggest a negative relationship between household economic resources, as measured by location in the household income distribution, and criminal participation. In contrast, the second two sets of bars in Figure I(c) show that when criminal participation is limited to only serious crimes, this relationship seems to disappear. These results for black males may not be very informative however, due to the small sample sizes and large standard errors. There are only 123 black male youths who come from households with income in the top third of the income distribution, and only 109 black male youths who come from households in the top third of the net wealth distribution. As can be seen in Table A2 in the Appendix, these small sample sizes lead to large standard errors, reaching almost 0.05 for estimates examining youth from the richest third of households. Moreover, as discussed in Hindelang et al. [1978], black youth tend to be more likely to underreport criminal behavior than white youth. This possibly greater degree of measurement error, combined with the small sample sizes in the higher economic status categories, make these estimates substantially imprecise for black youth.

Finally, Figure I(d) shows that for female youth, while the negative relationship between criminal behavior and household economic resources appears to remain, the

[11] As can be seen in Table A2 in the Appendix, this difference is statistically significant at the one percent level.

magnitude of this relationship is not altered substantially if criminal behavior is limited only to serious criminal acts and household wealth, as opposed to household income, is used to measure of household economic resources. Specifically, while females coming from the poorest third of households as measured by household income are 47 percent (8.6 percentage points) more likely to participate in crime in the previous year than females coming from the richest third of households, this greater likelihood stays relatively stable at 48 percent (4.2 percentage points) when crimes are limited to only serious crimes and household net wealth is used to measure household economic resources.

Table II parametrically describes the relationships discussed above using several probit specifications. In the first specification, the dependant variable is a binary variable equal to one if the respondent admitted to committing *any* crime during the observation year, while control variables include household economic status as measured by the household's income percentile, dummies for gender and race, and interactions between race and household income percentile variables.[12] In the second specification, the dependent variable equals one if the respondent admitted to committing a *serious* crime during the observation year, while the control variables stay the same as in the first specification. The third specification is identical to the second, except household net wealth percentile is used instead of household income percentile to measure household economic status.

Looking at the coefficients in Table II corresponding to household income percentile and household wealth percentile, the same pattern as shown in Figure 1(a) emerges. Comparing the first specification with the second, the coefficient on household income

[12]Dummies for age at time of interview are also included in this and all subsequent probit specifications. An F-test testing the joint significance of all the age dummies is rejected at the 10 percent level in all specifications throughout the paper.

percentile increases in magnitude from -0.003 to -0.005, meaning there is a stronger negative correlation between household income percentile and serious criminal behavior than household income percentile and all criminal behavior. Looking at the third specification, the coefficient of -0.006 on household wealth percentile shows an even stronger negative relationship exists between youth participation in serious crime and household economic status as measured by household wealth percentile. Also, although it is never very strongly statistically significant, the coefficient on the interaction term between the black dummy variable and each measure of household economic resources is always positive. This suggests that the negative relationship between youth crime participation and household economic resources is not as strong for black youth as for white youth.

In order to better visualize the magnitude of these probit coefficients from Table II, Figures II(a)-(d) show the predicted probabilities from this probit analysis evaluated at the midpoint of each household income/wealth third (i.e. the predicted probabilities are calculated for individuals at the cutoff points for the 17th percentile, the 50th percentile, and the 83rd percentile). Not surprisingly, the pictures shown in Figures II(a)-(d) are very similar to those in Figures II(a)-(d).[13] The one exception is for black males. However, these differences are likely due to the small sample number of black males coming from households in the upper portions of the income/wealth distributions. As discussed above, the large standard errors in each case (see Tables A1 and A2 in the appendix) suggest that, in neither Figure 1(c) nor Figure 2(c) are the probabilities for black male crime participation very precisely estimated.

[13]The predicted probabilities with their corresponding standard errors are reported in Table A2 in the Appendix.

4 Examining Why the Negative Relationship Between Youth Criminal Participation and Household Economic Status Exists

As discussed at the outset of the paper, there are several theories that discuss why there may be a relationship between the household economic status and youth criminal participation, including differential youth expectations across the wealth distribution, differential neighborhood crime exposure across the wealth distribution, and differential parental investments in children across the wealth distribution. In this section, I attempt to empirically examine whether any of these theories, individually or as a group, can account for the relationship between youth criminal behavior and household economic status shown in the previous section. In order to do so, I first discuss the variables available in the NLSY97 that I use to attempt to control for the forces inherent in each of these theories.

4.1 Controls for Expectations of Future Opportunities

As discussed previously, one explanation for why individuals from poorer households are more likely to participate in crime relates to the expectations the youth has for his or her future opportunities. Four questions relevant to each youth's expectations of his or her future opportunities are contained in the NLSY97 data. In the 1997 interview, 15 and 16 year old youths were asked what they thought was the probability they would die by the age of 20, the probability they would graduate from high school by the age of 20, and the probability they would graduate from college by the age of 30. Table III(a) shows that there appears to be a strong correlation between these expectations and household wealth. While 93 percent of youth from a household in the richest third of

the wealth distribution expected an over 90 percent probability of graduating from high school by the time they were 20, only 73 percent of the youth from a household in the poorest third of the distribution expected the same. Similarly, 81 percent of youth from the richest third of households expected an over 50 percent chance of graduating from college by the time they were 30, yet only 55 percent of youth from the poorest third of households expected this high of a probability. For the expected probability of death by 20, a similar pattern exists. Thirty-three percent of youth from the poorest third of households estimated the probability they will die before age 20 to be greater than 40 percent, compared to only 21 percent of youth from the richest third of households.

While the magnitudes of these beliefs are clearly too high (especially in the case of the expected probability of death by 20), this does not mean these beliefs are meaningless. Specifically, if the all youth tend to overstate these probabilities by a similar amount, then the differences across wealth groups still reflect real differences in expectations.

4.2 Controls for Neighborhood Crime Exposure

A second reason discussed above for why youth from poorer households may be more likely to participate in serious crime is that they are exposed to more crime in their neighborhood. In order to assess the degree of criminal activity a youth has been exposed to in his or her community I will use dummy variables capturing whether there is a high crime rate in the youth's county of residence,[14] whether the youth felt safe at school, whether the youth claimed that more than 75 percent of his/her peers get drunk once a month, whether the youth claimed more than 75 percent of his/her peers skipped class on a regular basis, whether the youth claimed more than 75 percent of his/her

[14]High crime rate is defined to be a county with a crime rate in the top quintile of all counties represented by the sample used here.

peers use drugs, whether the youth claimed there were gangs in his/her neighborhood, whether the youth claimed his/her house had ever been broken into before the age of 12, whether the youth claimed to ever have seen anyone shot before the age of 12, and whether the youth expected a greater than 10 percent chance of being the victim of a violent crime in the next year.

Table III(b) shows how each of these variables relate to household wealth. In almost every case there is a strong relationship between each of these measures of criminality exposure and household wealth. For example, youth from households in the poorest third of the wealth distribution are almost 60 percent more likely to have had their house broken into before the age of 12 and 3 times more likely to have seen someone shot before the age of 12, than youth from households in the richest third of the wealth distribution. In general, there appears to be a strong relationship between a youth's exposure to criminal activity and his/her household's relative wealth.

4.3 Controls Parental Investments in Children

The final set of controls attempt to capture the relationship between household wealth and parental investment in the children. There are a variety investments parents can make to that may affect youth criminal behavior, possibly including promoting religion in the household to inculcate youth to value law abiding behavior, nurturing strong relationships with their children in order to effectively pass on values and household expectations, actively monitoring their children's whereabouts and activities making it more difficult for children to break rules, and punishing children who are caught breaking rules. Moreover, simply the existence of two parents in the household allows for considerably more parental interaction in all of the preceding ways than could be done in a single parent household. As Hirschi also points out, as far back as 1950, Glueck

and Glueck [1950] report a strong ability to predict delinquency from an early age using just five factors related to parental investments in their children: discipline of the boy by his father, supervision of the boy by his mother, affection for the boy by his father, affection for the boy by his mother, and the cohesiveness of the family.

There are several questions in NLSY97 that can provide some information regarding parental investments in child quality. Youth ages 12 to 14 in 1997 were asked a variety of questions regarding their interactions with their parent(s) at home. The answers to several subsets of these questions were combined into a variety of different index measures that attempt to summarize the information learned from each subset of questions. The indexes used here attempt to capture family routines (e.g. how often youth did activities together with other family members), the degree of residential parental monitoring, the quality of the relationship between the youth and his/her residential parent(s) (e.g. does youth think highly of parent(s) and enjoy spending time with parent(s)), and the degree of religiosity of the household. These indexes were created by Child Trends Inc. for the NLSY97 study. A more thorough description of each of these indexes is provided in the Appendix to this paper and in Appendix 9 of the NLSY97 Round 1 Codebook supplement.

In addition to these index measures, several other questions can be used to control for other types of parental investments in their children. First, from two questions concerning how supportive the parent is toward the youth and how strict the parent is at ensuring the youth does what he or she is told, dummy variables can be created indicating whether the parents are uninvolved (i.e permissive and unsupportive), permissive (but supportive), authoritarian (strict but unsupportive), and authoritative (strict but supportive).[15] Dummy variables can also be created for whether or not there was a

[15]These categories were also classified by Child Trends Inc. for the NLSY97.

computer in the house, whether or not there was a dictionary in the house, whether the youth took music, dance, or foreign language lessons, and whether or not the youth came from a two parent household.

As mentioned in the Section 2, because poorer parents are likely to have more physically taxing and less time flexible jobs, tend to live in higher stress living environments, and have less disposable income available for items and activities for their children, poorer parents may be less able make the above investments in their children than richer parents. Table III(c) suggests this to be true at least with respect to the variables measured here. Youth from households in the poorest third of the wealth distribution score significantly lower on every one of the investment index measures than youth from households in the richest third of the wealth distribution. Moreover, youth from the richest third of households are over twice as likely to come from a two parent family and have a computer in the house than youth coming from the poorest third of households.

In addition to these time and resource investments, the ability of parents to affect child quality characteristics may also depend on their ability to effectively communicate the necessary information to their children. One could argue that parental characteristics, such as age and education, make some parents better at communicating these lessons than others. For example, older and more educated parents may be more effective at convincing their children that crime and drugs should be avoided, and that reading books and playing music should be embraced. Hence, the highest grade completed by each parent and the age at which the youth's mother gave birth to the youth may also be important factors related to parental investment in child quality.

The bottom of Table III(c) shows, not surprisingly, that parental education and mother's age at respondent's birth are both correlated with household wealth. Parents in the richest third of the wealth distribution have 2-3 more years of education than

parents in the poorest third of the income distribution, and mothers in the richest third of the distribution are over 3 years older on average when they gave birth to their respondent children than mothers in the poorest third of the income distribution.

4.4 Accounting for Neighborhood Crime Environment, Expectations, and Parental Investments

Certainly the variables described above do not exhaustively describe each youth's neighborhood crime environment, expected future choice set, or the parental investments that each youth is exposed to. However, it is still important to examine whether the differences in these variables across the wealth distribution can account for the differences in youth criminal participation across the wealth distribution, or if different variables and/or new theories are necessary.

Table IV presents the results of several probit specifications, where the dependant variable in each specification equals one if the individual admitted to committing a serious crime in the sample year and zero otherwise. The first column in Table IV repeats the coefficients from the last column of Table II, where control variables consist of household net wealth percentile, gender and race dummies, and interaction terms between the race dummies and wealth percentile.[16] Specification 2 further controls for the variables used to measure parental investment, Specification 3 controls for both the variables measuring parental investments and the variables measuring parental characteristics variables. Specification 4 further controls for the variables measuring the youth's neighborhood criminal exposure, and finally Specification 5 controls for all of the previous variables as well as the variables measuring each youth's expected opportunities.[17]

[16] As before, dummies for age at date of interview are also included in each specification. Once again, and F-test rejects the joint significance of all of of these age dummies at the 10 percent level.

[17] Each specification also includes dummy variables corresponding to each control variable that equal

As can be seen in the top row of Specification 1 on Table IV, when we only control for age, race, and gender, the coefficient on household wealth percentile equals in -0.0062 and is significant at the one percent level. However, as we add in the variables controlling for parental investments, parental characteristics, criminal exposure, and finally expectations in Specifications (2)-(5), the coefficient on household wealth percentile continually falls in magnitude. By Specification 5, where we control for all of the available parental investment, parental characteristic, criminal exposure, and expectations variables, the coefficient on household wealth percentile has fallen in magnitude to -0.0014 and is no longer even statistically significant at the 10 percent level. This means that if the variables measuring parental investments, parental characteristics, criminal exposure, and youth expectations were similar across the wealth distribution, there would be only negligible residual correlation between youth participation in serious crime and household wealth percentile. In other words, most of the relationship between household wealth and youth criminal participation can be accounted for by the cross wealth differences in the variables used here to measure parental investments, parental characteristics, criminal exposure, and youth expectations.

The probit specifications from Table IV also suggest that each of the theories de-

one if the observation is missing for its corresponding control variable. Therefore, identification of probit coefficients comes only from valid observations, and implicitly assumes no selection bias in who provided valid responses to each question. In general, very few respondents refused to answer or answered "don't know" to the relevant questions. However, some sets of questions were asked to only a selected group of children. For example, many of the neighborhood crime questions were asked only to youth 12-14 years old at the date of the first interview, while the expectations questions were asked to respondents who were 15 and 16 years old at the date of first interview. To ensure that these variables are not simply picking up age differences between respondents, dummies for age at date of interview were also included in each specification.

scribed in the preceding section provide at least a part of the explanation for why youth from poorer families are more likely to participate in serious crime. In Specification 5, of the variables used to measure parental investments in their children, the coefficients on the dummies for whether or not there was a computer in the household, whether or not the youth had a positive relationship with his or her residential father, and whether or not the youth was from a two parent household, are all significant at the one percent level in the final specification. All of these significant coefficients are consistent with the theoretical prediction that more investment of time and resources in youth lowers their likelihood of participating in crime. An adjusted Wald F-test testing the joint significance of all of the parental investment variables in this final specification gives an F-statistic of 4.17, with a corresponding p-value of 0.000.

In specification 5, the coefficients on the dummies for whether the respondent's birth father completed at least high school and for whether the respondent's birth father completed at least some college, are also significant at the one percent level, with youth with more educated birth fathers being less likely to have committed a serious crime during the observation year. However, the coefficient on the dummy for whether or not the respondent's residential mother completed at least some college is significantly positive, implying youth with a mother with only a high school education or less, are less likely to participate in serious crime than youth with a residential mother who completed some college, all else equal. The test for the joint significance of all of the parental characteristic variables gives an F-statistic of just 1.95 and a p-value of 0.06, making them only marginally significant as a group. Hence, the parental investment variables appear to have a more significant relationship to criminal participation than the parent characteristic variables. These results are consistent with the findings of Levitt and Lochner [2001], who use data from the NLSY79 to find that youth raised in

families where both parents are present are less likely to engage in crime, while Mother's age and parents' education have ambiguous effects on criminal involvement.

Looking at the Specification 5 coefficients on the variables measuring the neighborhood criminal exposure faced by each youth, we can see that other than the dummy for whether the county crime rate is high and the dummy for whether greater than 75 percent of peers drink, all other crime exposure variables are significant at the 1 percent level. Moreover, the sign in each case corresponds to what is predicted by the theory, with those youth who faced more criminal activity in their neighborhoods being more likely to have committed a serious crime during the observation year. The Wald test testing for the joint significance of all of the crime exposure variables in this specification gives an F-statistic of 19.53, with a p-value of 0.000.

Finally, looking at the coefficients on the expectations variables in Specification 5, we can see that only the dummy variable indicating whether or not the respondent expects a greater than 50 percent probability of graduating from college by age 30 is statistically different from zero. The coefficient on this variable is negative, indicating that those who expect a greater than 50 percent probability of a college degree are less likely to participate in a serious crime all else equal. A finding consistent with the theoretical prediction. Testing the joint significance of all three expectations of future opportunities variables gives an F-statistic of 4.83 and a corresponding p-value of 0.002.

In order to better visualize the magnitudes of the probit coefficients from Table IV, Figures III(a)-(d) graphically describe how the differences in criminal participation across wealth groups are altered by controlling for the parental investment variables, the parental characteristics variables, the criminal exposure variables, and the expectations variables. In particular, Figures III(a)-(d) show the predicted probabilities of criminal participation for youth coming from different thirds of the household wealth

distribution, where the different sets of bars correspond to each of the different probit specifications from Table IV.[18] Figure III(a) shows the results for the sample as a whole, Figure III(b) shows the results for white males only, Figure III(c) shows the results for black males only, and Figure III(d) shows the results for females only. The predicted probabilities shown in these figures can be interpreted as the probability that a youth in each household wealth third committed a serious crime over the course of the observation year if the other control variables included in each specification were identical across wealth groups.

These figures show quite clearly how the gap in predicted criminal participation between youth from the wealthiest families and youth from the poorest families decreases in each successive specification. Clearly, this is the direct result of the coefficient on household wealth percentile falling in magnitude from the first to the third specification. However, these figures make clear the degree to which the predicted criminality gap between the richest and poorest youths is accounted for by differences in the variables measuring parental investments, parental characteristics, criminal exposure, and expectations between rich and poor youths. For example, looking at Figure III(a) we can see that, if we only control for age, race, and gender, youth from households in the poorest third of the wealth distribution are predicted to be 82 percent (9.3 percentage points) more likely to participate in serious criminal activity than youth from the wealthiest third of households. However, the second set of bars shows that after controlling for the parental investment variables, the crime participation gap falls to 42 percent (5.1 percentage points). By the time we have further controlled for parental

[18] As before, for all specifications the predicted probabilities for each household wealth third are calculated at the midpoint of that third of the wealth distribution, with the other control variables in each specification held constant at the sample means.

characteristics, criminal exposure, and youth expectations, a youth from a household in the poorest third of the wealth distribution is predicted to be only 13 percent (1.6 percentage points) more likely to participate in serious crime than a youth from a family in the richest third of the wealth distribution.

Looking at white males only in Figure III(b), we see a very similar picture to that of the whole sample from Figure III(a). The initial 81 percent (11.3 percentage point) gap in predicted criminal participation between the poorest and richest youth, falls to a 14 percent (2.4 percentage point) gap after controlling for parental investments, parental characteristics, criminal exposure, and youth expectations.

For black males, a youth from a household in the poorest third of the wealth distribution is actually predicted to go from being 44 percent (7.1 percentage points) more likely to participate in serious crime than a youth from a household in the wealthiest third, to being 13 percent (1.7 percentage points) less likely to participate in serious crime after controlling for parental investments, parental characteristics, criminal exposure, and youth expectations. However, as discussed before, these estimates for black males are likely to be very imprecise due to very few black males coming from households in the richest third of the wealth distribution and the fact that there might be greater measurement error in criminal participation among black males. As shown in the Table A4 in the appendix, the standard errors for these predicted probabilities among black males are quite large.

Finally, Figure III(d) shows the patterns among females to be very similar to that of white males. Where a female from a household in the poorest third of the wealth distribution is predicted to be almost twice as likely to commit a serious crime than a female from a household in the richest third of the wealth distribution, after controlling for parental investments, parental characteristics, criminal exposure, and youth expec-

tations, females from the poorest third are predicted to be only 16 percent more likely to participate in serious crime than those from the richest third.

In general, the probit specifications from Table IV imply that while youth from poorer households are substantially more likely to commit serious crime than youth from richer households, most of this differing likelihood can be explained by differences in variables that arguably measure parental investments, neighborhood criminal exposure, and expectations of future opportunities across the wealth distribution. However, since this study examines only participation over the course of the observation year, it does not reveal how intensity of criminal activity differs across the wealth distribution. Elliot and Ageton [1980] argue that frequency of criminal activity may reveal an even stronger relationship between socioeconomic class and criminal behavior than simply participation in criminal activity. Such analysis provides an important extension of this paper.

5 Conclusion

In order to effectively prevent crime, it is important to understand what factors make some individuals more prone to criminal participation than others. This is especially the case for youth criminal participation, since most adults who participate in criminal activity first engaged in such behavior while still a youth. One commonly held perception has been that youth from poorer households are much more likely to engage in criminal activity. However, very few studies have been able to empirically document such a relationship or have attempted to evaluate what factors may account for why such a relationship exists.

Using data from the NLSY97, the first part of this paper showed that there exists

a strong and significant negative relationship between household economic status and youth criminal participation. Moreover, this paper shows that one reason previous studies may have failed to capture the strength of this relationship is because they may have defined criminal activity too broadly or used imprecise measures of household economic status. In particular, the relationship between youth criminal participation and household economic status was shown to be roughly 50 percent stronger when criminal participation is limited to "serious" crimes only, and household wealth, as opposed to household income from a given year, is used to calculate household economic status.

The second part of this paper then examined what factors related to household wealth may account for this relationship between household wealth and youth participation in serious crimes. The analysis was motivated by three primary theories. The first being that youth from poor households expect fewer options to be available to them in the future, making the expected consequences to being arrested lower, thereby making poorer youth more prone to participate in crime. The second theory posits that youth from poor households are more often exposed to criminal activity in their neighborhoods. This greater exposure then lowers the stigma associated with participating in and being arrested for criminal activity, thereby making youth from these neighborhoods more prone to participate in crime. The third and final theory suggests that, because of less flexible work schedules, a higher likelihood of being a one parent household, less education, and a generally more stressful home environment, poorer parents are less able to invest time, energy, and parenting skill into the upbringing of their children, making them less able to steer their children away from criminal participation.

Using the relatively small set of variables available in the NLSY97 to control for the factors associated with each of these theories, I found evidence consistent with each.

Furthermore, when taken together, controlling for the variables associated with the three theories appears to account for the vast majority of the relationship between household wealth status and youth participation in serious crime. In particular, without controlling for other factors, youth from a household in the poorest third of the household wealth distribution were estimated to be over 80 percent (9.3 percentage points) more likely to have participated in a serious crime in the observation period than youth from a household in the richest third of the wealth distribution. However, after controlling for the various available measures of neighborhood crime exposure, expectations, and parental investments, youth from a household in the poorest third of the household wealth distribution were predicted to be only about 13 percent (or 1.6 percentage points) more likely to have participated in serious crime during the observation period than a youth from the richest third of households.

These findings suggest several directions for future research regarding what policies may be most effective at curbing youth criminal participation. First and foremost, the strong empirical relationship between household wealth and youth participation in serious criminal activity suggests that resources spent on youth anti-crime programs may have a much larger effect when targeted at youth coming from poor households rather than the youth population as a whole. Second, the findings related to the criminal exposure suggest that policies aimed at reducing the overall criminal activity poor youth are exposed to in their neighborhood may lower their own criminal activity. Similar to the previously discussed findings by Ludwig, Duncan, and Hirschfield [2001], these results suggest that a potentially large benefit from dispersing public housing throughout a variety of neighborhoods in cities, and away from large housing projects, is a citywide decline in youth crime.

The directions for future policy research arising from the findings concerning parental

investments in their children are less clear, as society certainly cannot force parents to invest more time, energy, and skill in the upbringing of their children. However, the results presented in this paper suggest that strong adult interaction has a significant impact on youth criminal activity. Therefore, a potentially fruitful direction for future research is estimate the degree to which mentoring programs like big brothers/big sisters, and community activity centers in poorer neighborhoods like Boys and Girls Clubs, can affect youth criminal participation. Similarly, the policy directions related to the findings regarding youth expectations are also unclear, as society cannot directly dictate youth to have better expectations of their future opportunities. However, youth expectations may be indirectly affected through policies meant to lessen the constraints to getting a college degree for example. Hence, one potentially important aspect of scholarship initiatives and/or after school tutoring programs to examine, is the degree to which these programs affect youth criminal participation.

Appendix

The family routines index was based on questions that asked about the frequencies with which the youth and his family ate together, did religious activities together, did fun activities together (e.g. go to sporting events, play games, etc.), and did housework. The answers from these questions were combined into the index, where scores ranged from 0 to 28 with higher index numbers implying more frequent family routines.

The questions used to create the indexes for the monitoring behavior of the residential mother and residential father (if there was one) included "how much does your residential mother/father know about your close friends, that is, who they are?", "how much does your residential mother/father know about your close friends' parents, that is, who they are?", "how much does your residential mother/father know about who you are with when you are not home?", and "how much does your residential mother/father know about who your teachers are and what you are doing in school?". The answers to these questions were combined into an index for each residential parent, where scores ranged from 0 to 16, with higher index scores indicating a higher degree of monitoring.

This index concerning the strength of the personal relationship between the youth and his or her residential mother and residential father (if there was one) were created using each youth's response to questions regarding whether or not the youth thinks highly of the parent, wants to be like the parent, enjoys spending time with the parent, how often the parent praises the youth, how often the parent criticizes the youth, how often the parent helps the youth with things important to the youth, how often the parent blames things on the youth, and how often the parent cancels plans with the youth. Once combined and coded into a single index, the index ranges from 0 to 32 with a higher score indicating a more positive relationship.

The index concerning the level of religiosity in the household was created using questions asked to a parent concerning whether the parent felt he/she needed religion to have good values, whether the Bible/Koran/Torah or other religious teachings should be obeyed exactly as written in every situation, whether the parent often asks God for help in making decisions, whether or not the parent prays once or more a day, and whether the parent attends religious services once a month or more. When combined and coded, this index ranges from 0 to 6, with higher scores indicating greater religiosity of the household.

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Table Ia - Sample Means of Key Variables

Variable	Whole Sample	Males	Females	White Males	Black Males
Any Crime	0.28	0.34	0.23	0.34	0.31
	0.006	*0.009*	*0.008*	*0.011*	*0.02*
Serious Crime	0.15	0.18	0.12	0.18	0.21
	0.005	*0.008*	*0.007*	*0.009*	*0.017*
Household Income ($)	52,294	52,365	52,219	59,254	32,078
	635	*879*	*917*	*1,110*	*1,283*
Household Wealth ($)	164,954	169,567	160,188	211,350	41,928
	6,411	*9,107*	*9,022*	*12,099*	*5,868*
number of obs.*	6,335	3,226	3,109	1,740	816

Table Ib - Joint Sample Distribution of Household Income and Household Wealth

	Household Net Wealth Third		
Household Income Third	**1 (< $11,750)**	**2 ($11,750 - $77,750)**	**3 (> $77,750)**
1 (< $24,400)	0.23	0.10	0.02
2 ($24,400 - 51,750)	0.07	0.16	0.10
3 (> $51,750)	0.02	0.07	0.24

Note: Means for crime and wealth variables, as well as number of observations, were computed from a sample consisting of all respondents who completed the 1998 interview and had valid information concerning household wealth in the initial 1997 interview. Mean Household Income was computed from a sample consisting of all respondents who completed the 1998 interview and had valid information concerning household income in the initial 1997 interview. Number of observations for this sample for each category were: 6,210, 3172, 3,038, 1,783, 763. Means for crime categories in this sample were almost identical to those shown above. Serious crimes defined to be breaking and entering a locked building to steal, stealing with a weapon or use of force, stealing a car, assault, selling narcotics, and/or earning over $500 from drug sales in the previous year. All criminal participation information is taken from 1998 interview. Standard errors below means in italics. All statistics are weighted using NLSY97 sampling weights.

Table II - Probit Analysis of Criminal Participation in Previous Year

	Specification (dependant variable listed below)		
Control Variable	**1- All Crimes**	**2 - Serious Crimes**	**3 - Serious Crimes**
h. income percentile	**-0.004** *0.001*	**-0.005** *0.001*	-
h. wealth percentile	-	-	**-0.006** *0.001*
female	**-0.377** *0.038*	**-0.305** *0.044*	**-0.276** *0.043*
black	**-0.150** *0.090*	-0.068 *0.101*	-0.108 *0.096*
black*h. income pct.	0.001 *0.002*	0.003 *0.002*	-
black*h. wealth pct.	-	-	0.002 *0.002*
hispanic	**-0.222** *0.097*	-0.084 *0.106*	-0.078 *0.104*
hispanic*h. income pct.	**0.005** *0.002*	0.002 *0.002*	-
hispanic*h. wealth pct.	-	-	0.000 *0.002*

Note: Standard errors in italics below coefficients. Coefficients significant at the 10 percent level in bold. Dependant variable equals one if respondent admitted to committing any crime between 1997 and 1998 interviews and zero otherwise in specification 1. Dependant variable equals one if respondent admitted to committing a serious crime between 1997 and 1998 interviews and zero otherwise in specifications 2 and 3. Dummies for age at date of interview also included in each specification but not shown (none were significant at the 10 percent level). Coefficients have been normalized to represent the marginal change at the mean of all control variables. All statistics are weighted using NLSY97 Round 2 weights.

Table IIIa - Expectations Variables

Variable	Household Wealth Thirds			no. of valid obs.
	Poorest Third	Middle Third	Richest Third	
> 90% probability of h.s. degree by 20	0.73	0.85	0.93	2,432
	0.02	*0.01*	*0.01*	
> 40% probability of death by 20	0.33	0.26	0.21	2,388
	0.02	*0.02*	*0.01*	
> 50% probability of college degree by 30	0.55	0.68	0.81	2,427
	0.02	*0.02*	*0.01*	

Table IIIb - Exposure to Crime in Neighborhood Variables

Variable	Household Wealth Thirds			no. of valid obs.
	Poorest Third	Middle Third	Richest Third	
high crime rate in county	0.20	0.15	0.13	6,335
	0.01	*0.01*	*0.01*	
feel safe at school	0.81	0.85	0.93	6,321
	0.01	*0.01*	*0.01*	
> 75% of peers drink	0.19	0.17	0.16	6,224
	0.01	*0.01*	*0.01*	
> 75% of peers skip class	0.24	0.21	0.16	6,297
	0.01	*0.01*	*0.01*	
> 75% of peers use drugs	0.24	0.22	0.17	6,210
	0.01	*0.01*	*0.01*	
gangs in neighborhood	0.50	0.43	0.37	6,290
	0.01	*0.01*	*0.01*	
house been broken into prior to age 12	0.19	0.14	0.12	6,226
	0.01	*0.01*	*0.01*	
seen anyone shot prior to age 12	0.15	0.10	0.05	6,237
	0.01	*0.01*	*0.00*	
> 10% probability of being victim in 1 yr.	0.36	0.36	0.29	2,412
	0.02	*0.02*	*0.02*	

Table IIIc - Parental Investment Variables

Variable	Household Wealth Thirds			no. of valid obs.
	Poorest Third	Middle Third	Richest Third	
family routine index	14.89	14.74	15.35	3,857
	0.18	*0.16*	*0.14*	
residential mother monitoring index	9.90	10.20	10.81	3,744
	0.11	*0.11*	*0.09*	
residential father monitoring index	7.75	8.20	8.82	2,762
	0.18	*0.14*	*0.12*	
residential mother relationship index	24.67	25.04	25.74	3,744
	0.17	*0.15*	*0.13*	
residential father relationship index	23.85	24.17	25.43	2,762
	0.26	*0.21*	*0.16*	
religiousity index	2.78	2.81	2.90	4,428
	0.04	*0.03*	*0.03*	
permissive and unsupportive mother	0.14	0.10	0.09	6,063
	0.01	*0.01*	*0.01*	
permissive and supportive mother	0.34	0.37	0.38	6,063
	0.01	*0.01*	*0.01*	
strict and unsupportive mother	0.13	0.13	0.10	6,063
	0.01	*0.01*	*0.01*	
strict and supportive mother	0.39	0.40	0.43	6,063
	0.01	*0.01*	*0.01*	
permissive and unsupportive father	0.14	0.14	0.10	4,428
	0.01	*0.01*	*0.01*	
permissive and supportive father	0.29	0.28	0.31	4,428
	0.02	*0.01*	*0.01*	
strict and unsupportive father	0.21	0.21	0.18	4,428
	0.01	*0.01*	*0.01*	
strict and supportive father	0.35	0.37	0.41	4,428
	0.02	*0.01*	*0.01*	
computer in house	0.32	0.50	0.78	3,875
	0.02	*0.02*	*0.01*	
dictionary in house	0.90	0.96	0.98	3,871
	0.01	*0.01*	*0.00*	
took dance, music, foreign language	0.23	0.27	0.34	3,859
	0.01	*0.01*	*0.01*	
two parent household	0.40	0.63	0.84	6,335
	0.01	*0.01*	*0.01*	
highest grade father	10.44	11.65	13.66	5,532
	0.18	*0.11*	*0.10*	
highest grade mother	11.52	12.49	13.73	6,052
	0.11	*0.09*	*0.08*	
age of mother at respondant's birth	24.10	24.53	27.35	5,972
	0.14	*0.12*	*0.11*	

Note: Standard errors in italics. See Table I for description of sample.

Table IV - Probit Analysis of Serious Criminal Participation in Previous Year with Controls

	Specification (dependant variable equals 1 if youth participated in a serious crime in observation year)				
Control Variable	**1 - No Controls**	**2- Controls for Parental Investments**	**3- Controls for Parental Investments + Parent Characteristics**	**4- Controls for Parental Investments + Parent Characteristics + Neighborhood Crime**	**5- Controls for Parental Investments + Parent Characteristics + Neighborhood Crime + Expectations**
household wealth percentile	**-0.0062**	**-0.0037**	**-0.0025**	-0.0015	-0.0014
	0.0009	*0.0010*	*0.0009*	*0.0011*	*0.0010*
female	**-0.276**	**-0.312**	**-0.315**	**-0.339**	**-0.329**
	0.043	*0.045*	*0.045*	*0.046*	*0.047*
black	**-0.108**	**-0.177**	**-0.174**	**-0.297**	**-0.289**
	0.096	*0.101*	*0.102*	*0.108*	*0.109*
black*h. wealth pct.	0.002	0.002	0.002	0.003	0.003
	0.002	*0.002*	*0.002*	*0.002*	*0.002*
hispanic	-0.078	-0.107	-0.086	-0.122	-0.118
	0.104	*0.107*	*0.111*	*0.114*	*0.114*
hispanic*h. wealth pct.	-0.000	0.001	0.000	-0.001	-0.001
	0.002	*0.002*	*0.002*	*0.002*	*0.002*
Parental Investment Controls					
degree of monitoring res. mother	-	-0.022	**-0.21**	-0.014	-0.015
		0.012	*0.110*	*0.012*	*0.012*
degree of monitoring res. father	-	-0.005	-0.003	-0.001	-0.001
		0.012	*0.012*	*0.012*	*0.012*
uninvolved res. mother	-	0.066	0.072	0.014	0.006
		0.083	*0.083*	*0.085*	*0.086*
uninvolved res. father	-	0.072	0.067	0.096	0.108
		0.098	*0.099*	*0.101*	*0.101*
permissive res. mother	-	-0.007	-0.002	-0.012	-0.015
		0.057	*0.057*	*0.058*	*0.058*
permissive res. father	-	0.047	0.060	0.097	0.113
		0.070	*0.071*	*0.072*	*0.072*

Table IV - Probit Analysis of Serious Criminal Participation in Previous Year with Controls (continued)

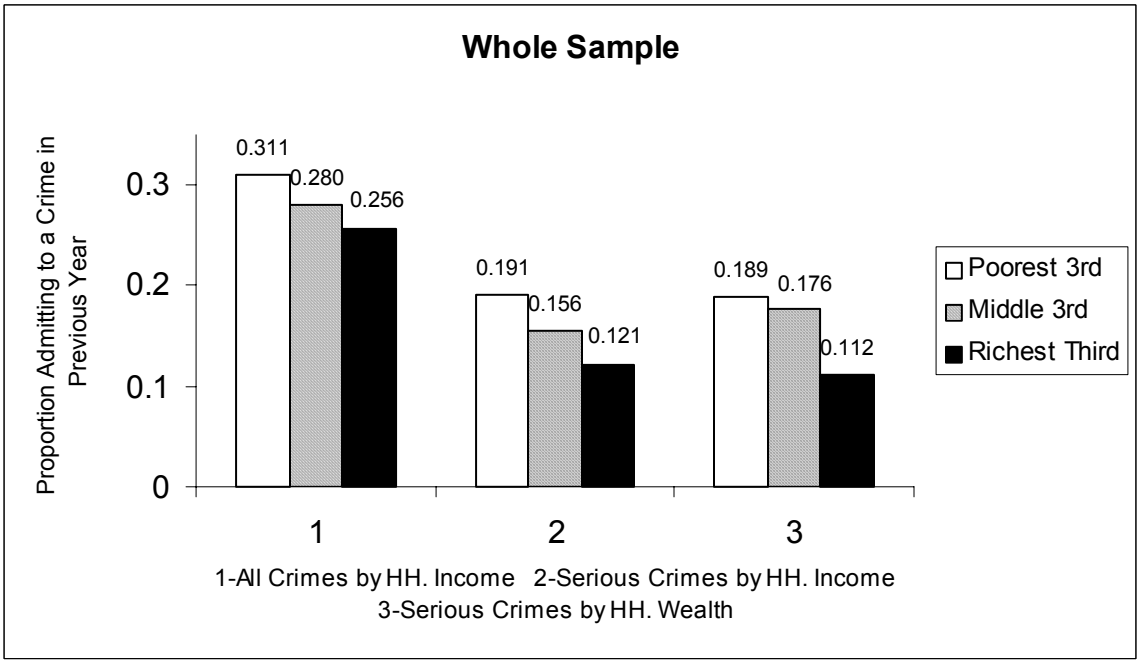
	Specification (dependant variable equals 1 if youth participated in a serious crime in observation year)				
Control Variable	**1**	**2**	**3**	**4**	**5**
authoritarian res. mother	-	0.168	**0.167**	0.126	0.124
		0.079	*0.079*	*0.081*	*0.081*
authoritarian res. father	-	**0.130**	0.135	0.102	0.108
		0.078	*0.079*	*0.081*	*0.082*
religiousity of household	-	**-0.042**	-0.039	-0.024	-0.017
		0.025	*0.025*	*0.025*	*0.025*
dance, music, or language class	-	0.076	0.088	0.066	0.059
		0.065	*0.065*	*0.066*	*0.066*
dictionary in household	-	-0.114	-0.116	-0.080	-0.082
		0.120	*0.121*	*0.123*	*0.122*
computer in household	-	**-0.159**	**-0.125**	**-0.129**	**-0.144**
		0.061	*0.078*	*0.064*	*0.064*
pos. relationship with res. mother	-	-0.012	-0.013	-0.012	-0.012
		0.008	*0.008*	*0.008*	*0.008*
pos. relationship with res. father	-	**-0.020**	**-0.019**	**-0.015**	**-0.015**
		0.008	*0.008*	*0.008*	*0.008*
two parent household	-	**-0.212**	**-0.198**	**-0.189**	**-0.192**
		0.065	*0.008*	*0.067*	*0.067*
h.s. degree birth mother	-	-	0.014	0.015	0.018
			0.064	*0.066*	*0.066*
h.s. degree birth father	-	-	**-0.142**	**-0.138**	**-0.135**
			0.062	*0.063*	*0.062*
some college birth mother	-	-	**0.124**	*0.117*	**0.135**
			0.071	*0.075*	*0.075*
some college birth father	-	-	**-0.212**	**-0.190**	**-0.168**
			0.080	*0.082*	*0.082*
college degree birth mother	-	-	-0.085	-0.086	-0.062
			0.090	*0.093*	*0.093*
college degree birth father	-	-	**-0.163**	-0.120	-0.096
			0.086	*0.087*	*0.088*

Table IV - Probit Analysis of Serious Criminal Participation in Previous Year with Controls (continued)

	Specification (dependant variable equals 1 if youth participated in a serious crime in observation year)				
Control Variable	**1**	**2**	**3**	**4**	**5**
age of mother at birth	-	-	-0.006	-0.004	-0.005
			0.004	*0.005*	*0.005*
Neighboorhood Crime Controls					
high county crime rate	-	-	-	-0.019	-0.018
				0.061	*0.061*
feel safe at school	-	-	-	**-0.148**	**-0.149**
				0.063	*0.063*
> 75% of peers drink	-	-	-	0.110	0.100
				0.069	*0.070*
> 75% of peers use drugs	-	-	-	**0.204**	**0.205**
				0.065	*0.065*
> 75% of peers skip school	-	-	-	**0.166**	**0.170**
				0.062	*0.061*
gangs in neighborhood	-	-	-	**0.273**	**0.272**
				0.047	*0.048*
house broken into < age 12	-	-	-	**0.119**	**0.128**
				0.061	*0.061*
seen someone shot <age 12	-	-	-	**0.381**	**0.379**
				0.069	*0.069*
> 10% probability of being victim in 1 yr.	-	-	-	**0.206**	**0.229**
				0.075	*0.078*
Expectations Controls					
> 90% prob. h.s. degree by 20	-	-	-	-	0.127
					0.103
> 40% prob. die by 20	-	-	-	-	-0.069
					0.085
> 50% prob. coll. degree by 30	-	-	-	-	**-0.302**
					0.080
number of observations	6,335				

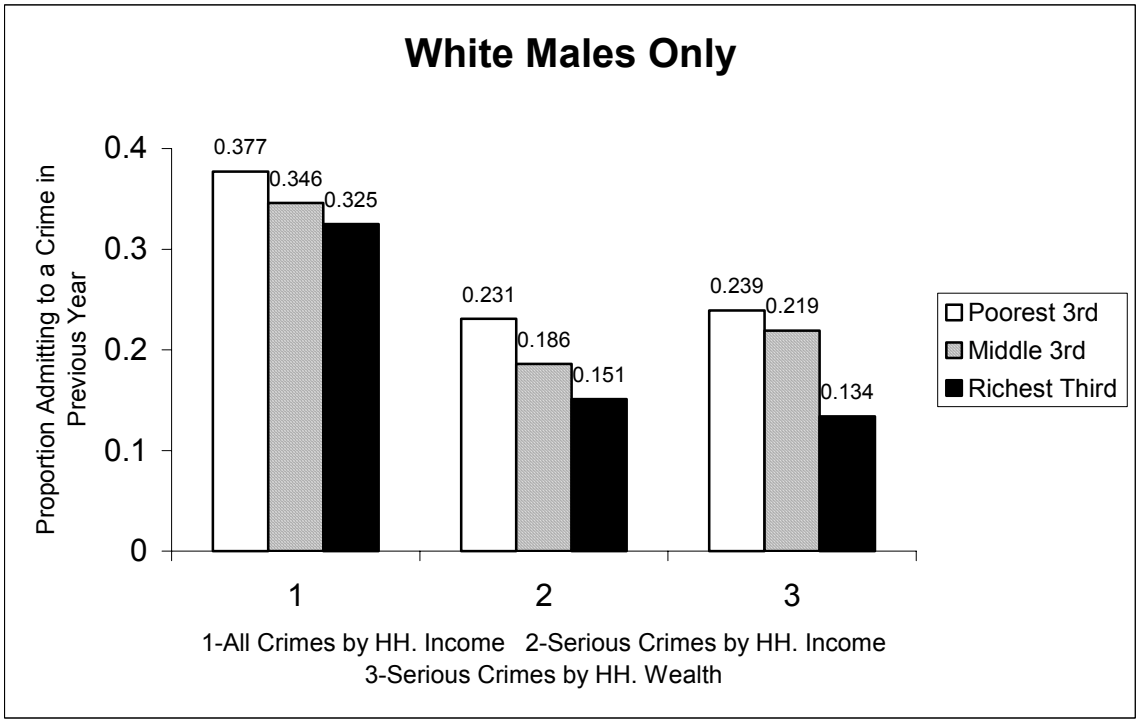
Note: Standard errors in italics. Coefficients significant at the 10 percent level in bold. Dependant variable in each specification equals one if respondent admitted to committing a serious crime between 1997 and 1998 interviews. Dummies for age of respondent at 1998 interview and for missing observations for each control variable were also included in each specification. Coefficients normalized to represent marginal change at the mean. All Statistics weighted.

Figure Ia



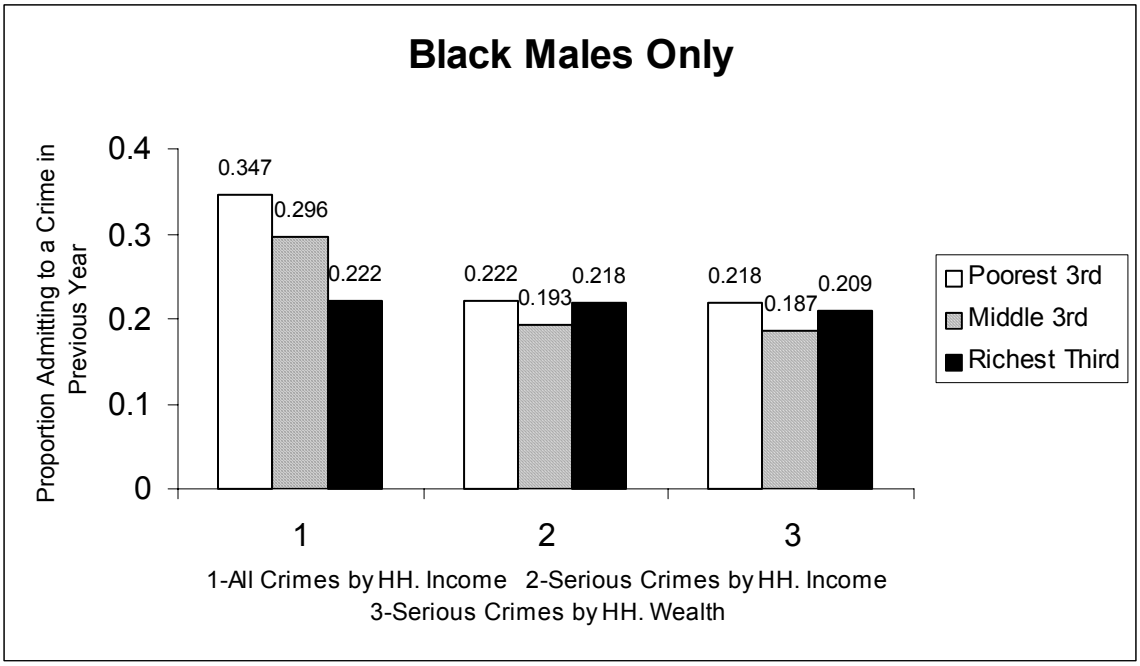
Note: For standard errors see Table A1 in the Appendix. See Table 1 for information on sample and definitions.

Figure Ib



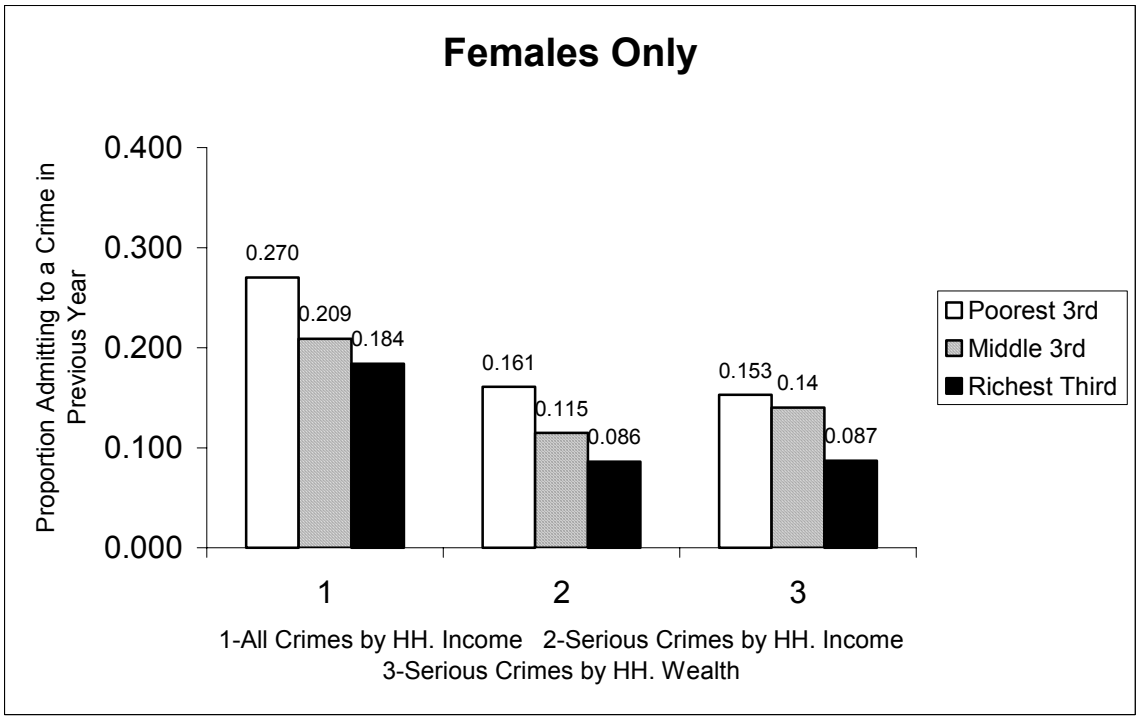
Note: For standard errors see Table A1 in the Appendix. See Table 1 for information on sample and definitions.

Figure Ic



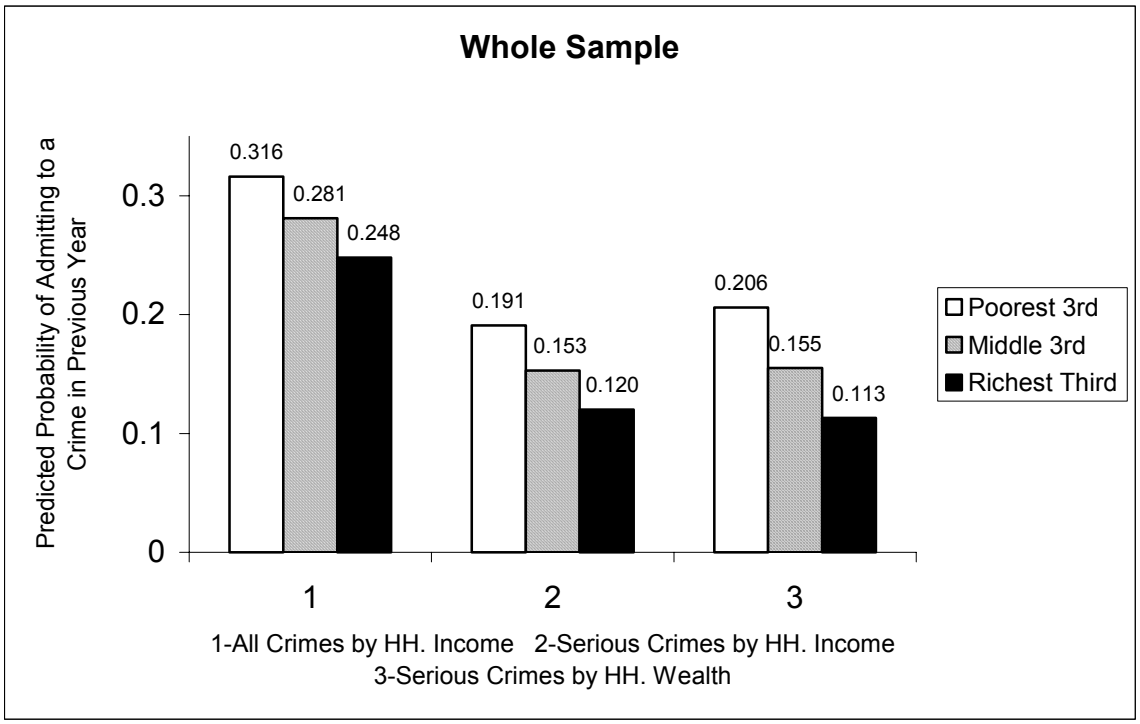
Note: For standard errors see Table A1 in the Appendix. See Table 1 for information on sample and definitions.

Figure Id



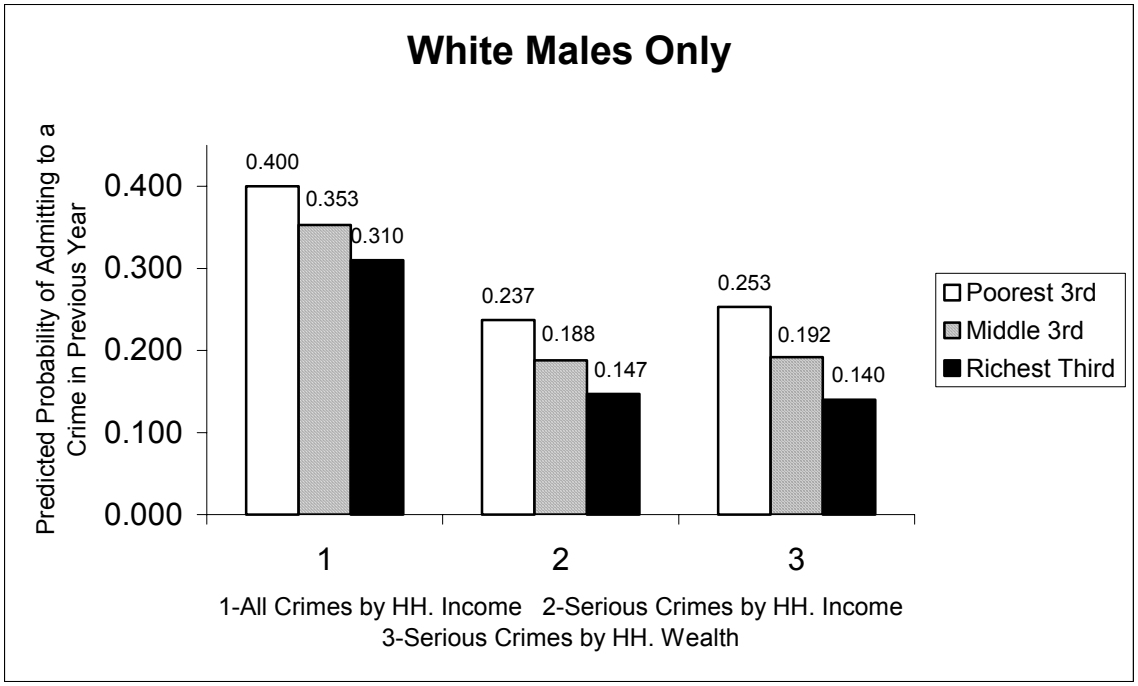
Note: For standard errors see Table A1 in the Appendix. See Table 1 for information on sample and definitions.

Figure IIa



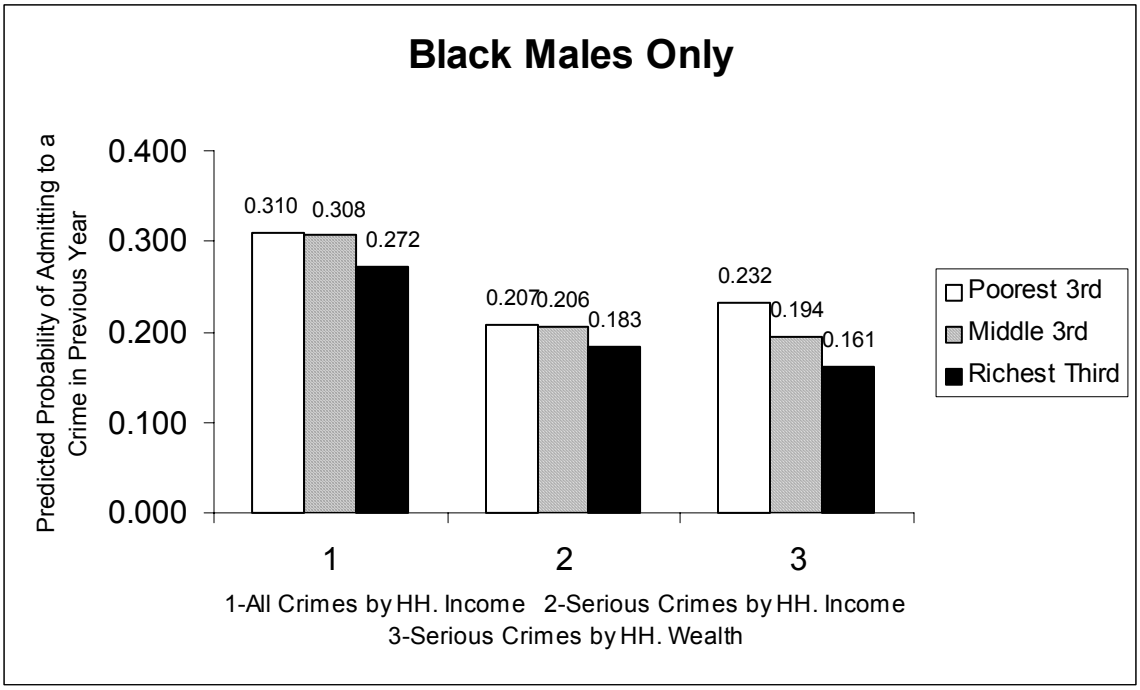
Note: For standard errors see Table 2A in the Appendix..

Figure IIb



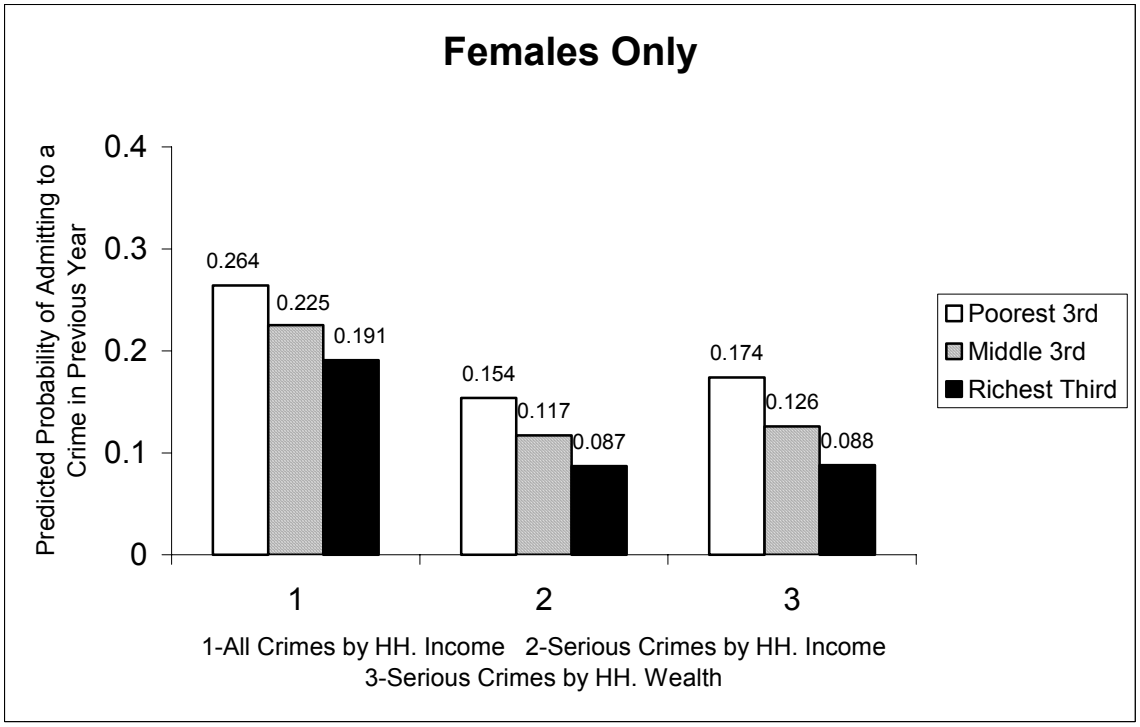
Note: For standard errors see Table 2A in the Appendix..

Figure IIc



Note: For standard errors see Table 2A in the Appendix..

Figure IId



Note: For standard errors see Table 2A in the Appendix.

Figure IIIa

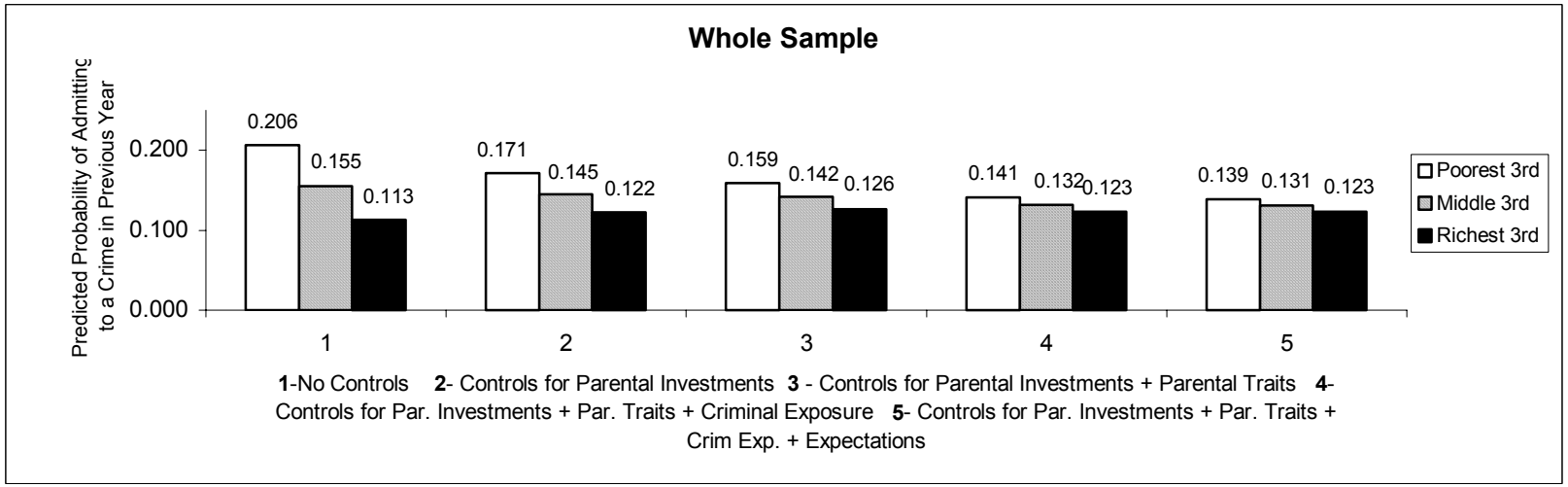


Figure IIIb

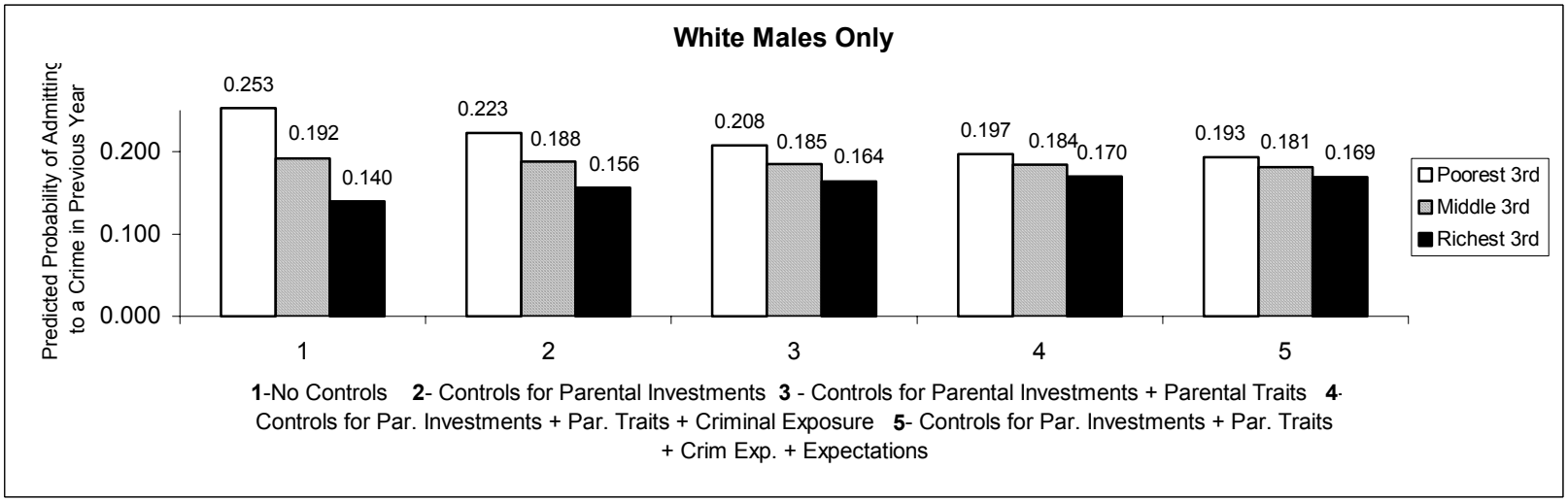


Figure IIIc

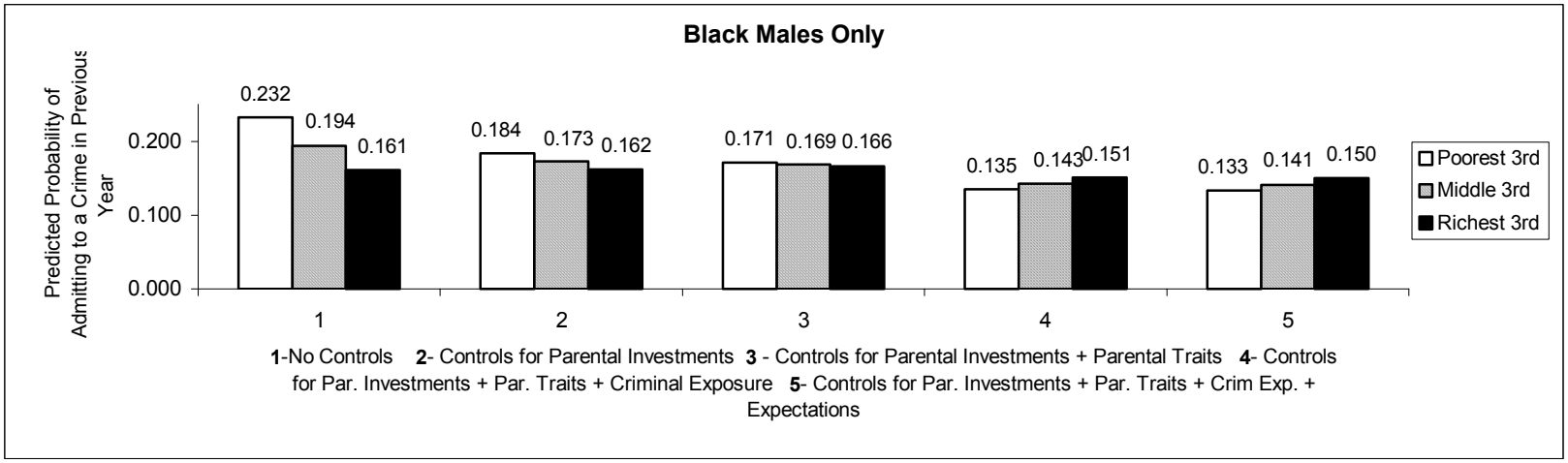
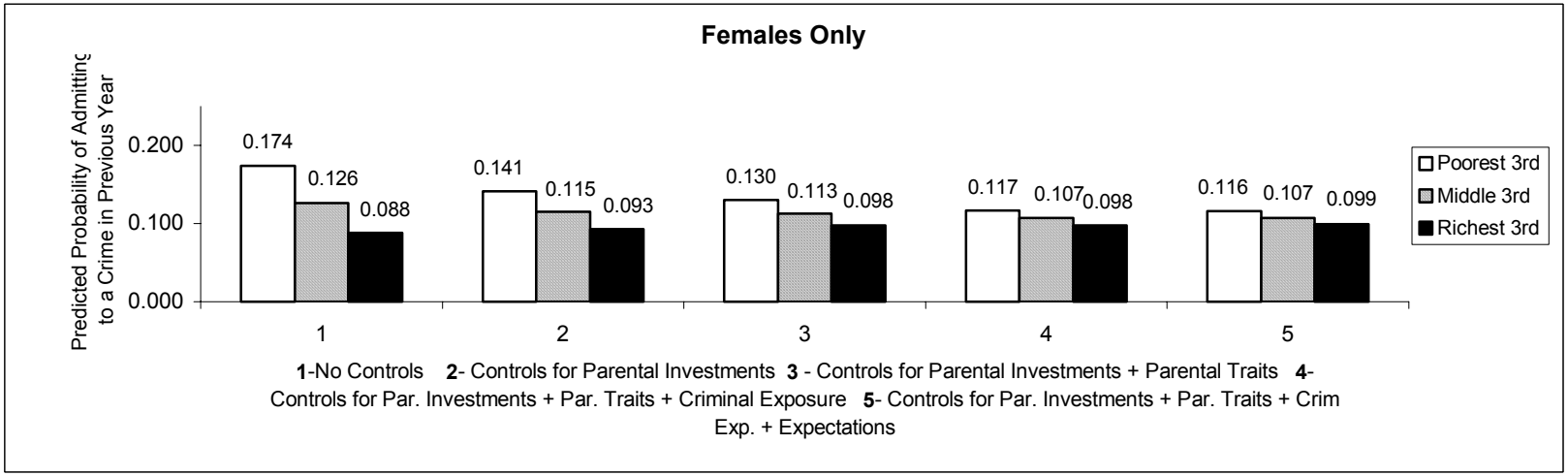


Figure IIId



Note: See Table A2 in Appendix for standard errors for Figures 3 a-d.

Appendix Tables

Table A1 - Comparing Youth with and without Household Wealth Information

	Valid Information					
	Household Wealth			Household Income		
Variable	Yes	No	Diff	Yes	No	Diff
committed any crime	0.282	0.265	0.017	0.278	0.275	0.003
	0.006	*0.011*	*0.013*	*0.006*	*0.011*	*0.013*
committed serious crime	0.153	0.135	0.018	0.151	0.142	0.009
	0.005	*0.008*	*0.01*	*0.005*	*0.009*	*0.01*
black	0.152	0.175	**-0.023**	0.144	0.201	**-0.057**
	0.004	*0.008*	*0.01*	*0.004*	*0.009*	*0.01*
female	0.492	0.473	0.019	0.49	0.478	0.012
	0.007	*0.012*	*0.01*	*0.007*	*0.012*	*0.014*
high crime rate in county	0.156	0.154	0.001	0.148	0.179	**-0.032**
	0.005	*0.008*	*0.01*	*0.005*	*0.009*	*0.01*
median county income	35,411	36,957	**-1,546**	35,431	36,914	**-1,483**
	119	*240*	*268*	*121*	*231*	*261*
highest grade birth mother	12.8	12.6	0.1	12.9	12.2	**0.6**
	0.06	*0.09*	*0.11*	*0.053*	*0.105*	*0.118*
highest grade birth father	12.2	12.3	-0.0	12.4	11.6	**0.8**
	0.07	*0.14*	*0.16*	*0.075*	*0.134*	*0.153*
two parent family	0.65	0.73	**-0.08**	0.681	0.652	**0.03**
	0.007	*0.011*	*0.013*	*0.006*	*0.011*	*0.013*
mother's age at R's birth	25.6	26.4	**-0.8**	25.6	26.3	**-0.7**
	0.076	*0.14*	*0.16*	*0.075*	*0.149*	*0.167*

Table A2 - Proportion of Youth Admitting to Committing a Crime in Previous Year

	All Crimes by Household Income			Serious Crimes by Household Income			Serious Crimes by Household Wealth		
	Low 3rd	**Mid 3rd**	**Top 3rd**	**Low 3rd**	**Mid 3rd**	**Top 3rd**	**Low 3rd**	**Mid 3rd**	**Top 3rd**
Whole Sample	0.311	0.280	0.256	0.191	0.156	0.121	0.189	0.176	0.112
	(0.012)	*(0.011)*	*(0.010)*	*(0.010)*	*(0.009)*	*(0.007)*	*(0.010)*	*(0.009)*	*(0.007)*
White Males	0.377	0.346	0.325	0.231	0.186	0.151	0.239	0.219	0.134
	(0.028)	*(0.019)*	*(0.016)*	*(0.024)*	*(0.016)*	*(0.013)*	*(0.024)*	*(0.018)*	*(0.012)*
Black Males	0.347	0.296	0.291	0.222	0.193	0.250	0.218	0.187	0.209
	(0.030)	*(0.038)*	*(0.049)*	*(0.024)*	*(0.031)*	*(0.047)*	*(0.023)*	*(0.028)*	*(0.043)*
Females	0.270	0.209	0.184	0.161	0.115	0.086	0.153	0.14	0.087
	(0.017)	*(0.014)*	*(0.013)*	*(0.014)*	*(0.011)*	*(0.009)*	*(0.013)*	*(0.012)*	*(0.009)*

Table A3 - Predicted Probabilites of Committing a Crime in Previouis Year from Probit Analysis

	All Crimes by Household Income			Serious Crimes by Household Income			Serious Crimes by Household Wealth		
	Low 3rd	**Mid 3rd**	**Top 3rd**	**Low 3rd**	**Mid 3rd**	**Top 3rd**	**Low 3rd**	**Mid 3rd**	**Top 3rd**
Whole Sample	0.316	0.281	0.248	0.19	0.153	0.121	0.205	0.155	0.114
	(0.034)	*(0.020)*	*(0.028)*	*(0.038)*	*(0.023)*	*(0.033)*	*(0.035)*	*(0.023)*	*(0.033)*
White Males	0.399	0.353	0.309	0.237	0.188	0.146	0.252	0.192	0.141
	(0.047)	*(0.030)*	*(0.035)*	*(0.052)*	*(0.033)*	*(0.042)*	*(0.050)*	*(0.034)*	*(0.040)*
Black Males	0.346	0.308	0.273	0.229	0.206	0.183	0.231	0.194	0.161
	(0.055)	*(0.051)*	*(0.087)*	*(0.060)*	*(0.055)*	*(0.096)*	*(0.059)*	*(0.054)*	*(0.098)*
Females	0.264	0.225	0.191	0.153	0.117	0.087	0.173	0.126	0.088
	(0.048)	*(0.032)*	*(0.038)*	*(0.045)*	*(0.037)*	*(0.044)*	*(0.051)*	*(0.037)*	*(0.044)*

Table A4 - Predicted Probabilites of Committing a Crime in Previous Year from Probit Analysis (with Controls)

	Whole Sample			White Males			Black Males			Females		
Specification	**Low 3rd**	**Mid 3rd**	**Top 3rd**	**Low 3rd**	**Mid 3rd**	**Top 3rd**	**Low 3rd**	**Mid 3rd**	**Top 3rd**	**Low 3rd**	**Mid 3rd**	**Top 3rd**
1	0.206	0.155	0.113	0.253	0.192	0.140	0.232	0.194	0.161	0.174	0.126	0.088
	(0.035)	*(0.023)*	*(0.033)*	*(0.050)*	*(0.034)*	*(0.041)*	*(0.059)*	*(0.054)*	*(0.099)*	*(0.051)*	*(0.037)*	*(0.045)*
2	0.171	0.145	0.122	0.223	0.188	0.156	0.184	0.173	0.162	0.141	0.115	0.093
	(0.039)	*(0.024)*	*(0.035)*	*(0.053)*	*(0.035)*	*(0.043)*	*(0.066)*	*(0.058)*	*(0.101)*	*(0.053)*	*(0.037)*	*(0.046)*
3	0.159	0.142	0.126	0.208	0.185	0.164	0.171	0.169	0.166	0.130	0.113	0.098
	(0.041)	*(0.024)*	*(0.036)*	*(0.054)*	*(0.035)*	*(0.045)*	*(0.068)*	*(0.059)*	*(0.102)*	*(0.054)*	*(0.037)*	*(0.047)*
4	0.141	0.132	0.123	0.197	0.184	0.170	0.135	0.143	0.151	0.117	0.107	0.098
	(0.043)	*(0.025)*	*(0.036)*	*(0.055)*	*(0.036)*	*(0.046)*	*(0.073)*	*(0.061)*	*(0.104)*	*(0.056)*	*(0.038)*	*(0.048)*
5	0.139	0.131	0.123	0.193	0.181	0.169	0.133	0.141	0.150	0.116	0.107	0.099
	(0.043)	*(0.025)*	*(0.037)*	*(0.056)*	*(0.036)*	*(0.046)*	*(0.073)*	*(0.062)*	*(0.105)*	*(0.057)*	*(0.039)*	*(0.049)*